

What is claimed is:

1. A composite metal article characterized in that the composite metal article is formed by at least two kinds of metals, a first metal portion comprising one side of said two kinds of metals and a second metal portion comprising the other side of said two kinds of metals are formed at random, and carbon nanotubes are dispersed and incorporated in at least one side of said first metal portion and second metal portion.

2. The composite metal article according to claim 1, wherein the carbon nanotubes are mixed through modified metal particles modified with the carbon nanotubes which partially protrude outward from metal particles comprising at least a metal of the one side of the metals which form the modified metal article

3. The composite metal article according to claim 2, wherein the modified metal particles are modified metal particles obtained by an electrolytic process of passing an electric current between a cathode and an anode immersed in an electrolytic solution in which the carbon nanotubes are dispersed.

4. The composite metal article according to claim 2, wherein the modified metal particles are modified metal particles obtained by an oxidation-reduction process of forming composite particles which contain the carbon nanotubes and comprise a metal salt or metal oxide slightly soluble in water, and then performing reduction treatment with a reducing agent which reduces the metal salt or metal oxide of said composite particles.

5. A production method of a composite metal article characterized in that when there is produced the composite metal article formed by at least two kinds of metals, wherein a first metal portion comprising one side of said two

kinds of metals and a second metal portion comprising the other side of said two kinds of metals are formed at random, carbon nanotubes are mixed in at least one side of said first metal portion and second metal portion, using modified metal particles modified with the carbon nanotubes which partially protrude outward from said metal particles.

6. The production method of a composite metal article according to claim 5, wherein the modified metal particles are compression molded to form the first metal portion comprising a porous body, and then, a molten metal obtained by melting the metal which forms the second metal portion is impregnated in said porous body.

7. The production method of a composite metal article according to claim 6, wherein a molten metal obtained by melting a metal which is difficult to provide modified metal particles by an electrolytic process is used as the molten metal.

8. The production method of a composite metal article according to claim 5, wherein the metal which forms the first metal portion and metal particles comprising the metal which forms the second metal portion are hot compression molded.

9. The production method of a composite metal article according to claim 5, wherein as the modified metal particles, there are used modified metal particles obtained by an electrolytic process of passing an electric current between a cathode and an anode immersed in an electrolytic solution in which the carbon nanotubes are dispersed.

10. The production method of a composite metal article according to claim 5, wherein as the modified metal particles, there are used modified metal particles obtained by an oxidation-reduction process of forming composite particles which contain the carbon nanotubes and comprise a metal salt or metal oxide slightly soluble in water, and then performing reduction treatment

with a reducing agent which reduces the metal salt or metal oxide of said composite particles.